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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/821,660	04/09/2004	Alan L. Rockwood	3001.BYU.NP	8785
26986	7590	04/07/2006	EXAMINER	
MORRIS O'BRYANT COMPAGNI, P.C. 136 SOUTH MAIN STREET SUITE 700 SALT LAKE CITY, UT 84101			NGUYEN, KIET TUAN	
			ART UNIT	PAPER NUMBER
			2881	

DATE MAILED: 04/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/821,660

Applicant(s)

ROCKWOOD ET AL.

Examiner

Kiet T. Nguyen

Art Unit

2881

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-66 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 17, 23-27, 29-34, 46 and 56-60 is/are rejected.
- 7) ☒ Claim(s) 6-16, 18-22, 28, 35-45, 47-55 and 61-66 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Objected Informalities

The disclosure is objected to because of the following informalities:

In The Claims

Claim 16, line 2, "15" should be – 9 – for providing antecedent basis for the term "the inlet aperture".

Claim 30, line 4, "system" should be – method – for providing antecedent basis.

Appropriate correction is required.

Rejection Under 35 U.S.C. 112, Second Paragraph

Claims 16, 18-22 and 30-66 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 16 recites the limitation "the inlet aperture" in lines 3-4. There is insufficient antecedent basis for this limitation in the claim.

Claim 30 recites the limitation "said system" in line 4. There is insufficient antecedent basis for this limitation in the claim.

Rejection Under 35 U.S.C. 102(b)

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5, 17, 23-26, 29-34, 46, 56-58 and 60 are rejected under 35 U.S.C. 102(b) as being anticipated by Yang et al. (6,509,562).

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Yang et al. (6,509,562) disclose, in figs. 1-7B, an ion mobility system for detecting, analyzing, identifying and measuring a particular chemical and physical ion type from a sample. The system includes a plurality of grid electrodes 18 and 26 for creating an electric field in a drift chamber 16; a clean air such as the drift gas (see col. 5, line 5), which is an inert gas such as oxygen, nitrogen or water vapor including a liquid (see col. 1, lines 53-54), flowing a channel 44 in opposition to the electric field (see the abstract and col. 10, lines 48-51) which is also called a cross-flow ion mobility system; a voltage source coupled to the grid electrodes for creating the electric field (see col. 4, lines 56-59); a processing system 52 and a controller 24 for analyzing and measuring selected ions having known mobility and mobility peak, and the grid electrode 26 which selectively passes or blocks (scans) ions in a predetermined drift time range (see figs. 4A, 4B, 6A, 6B; and col. 6, lines 1-22); a sample in an ionization chamber 14 introduced into the drift chamber 16 which is a cross-flow ion mobility system; and a detector 32 for detecting ions from the sample.

Rejection Under 35 U.S.C. 103(a)

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein

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were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 27 and 59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yang et al. (6,509,562).

Yang et al. (6,509,562) disclose all the features as discussed above except means for generating a high electric field asymmetric waveform as recited in claim 27; and lipo-proteins from blood samples as recited in claim 59.

Applying the high electric field asymmetric waveform to the ion mobility system is considered to be obvious variation in design, since it is well known in the art to use the high electric field asymmetric waveform in the ion mobility system (see Guevremont et al. (6,653,627)), thus would have been obvious to one skilled in the art to apply the high electric field asymmetric waveform in the Yang et al. (6,509,562) system for detecting the ions having different mobility.

Detecting the lipo-proteins from blood samples is also considered to be obvious variation in design, since the mobility spectrometer is well known in the art to use for characterizing a wide range of other samples including proteins, thus would have been obvious to one skilled in the art to use the Yang et al. (6,509,562) system for characterizing the lipo-proteins from blood samples.

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Claims 6-16, 18-22, 28, 35-45, 47-55 and 61-66 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Reasons for indicating allowable subject matter

The prior art fails to disclose a cross-flow ion mobility system and/or method having at least two concentric cylinders forming a gap therein as recited in claims 6 and 35; or means for generating an electric field for an ion near an exit point of a gas cross-flow region less than for an ion near an entry point of the gas cross-flow region when scanning from low to high voltage as recited in claim 61.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

1) Bradshaw et al. (4,271,357) disclose an ion mobility having a gas flow in opposition to an electric field.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kiet T. Nguyen whose telephone number is 571-272-2479. The examiner can normally be reached on Monday-Friday 8-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John R Lee can be reached on 571-272-2477. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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KIET T. NGUYEN
PRIMARY EXAMINER